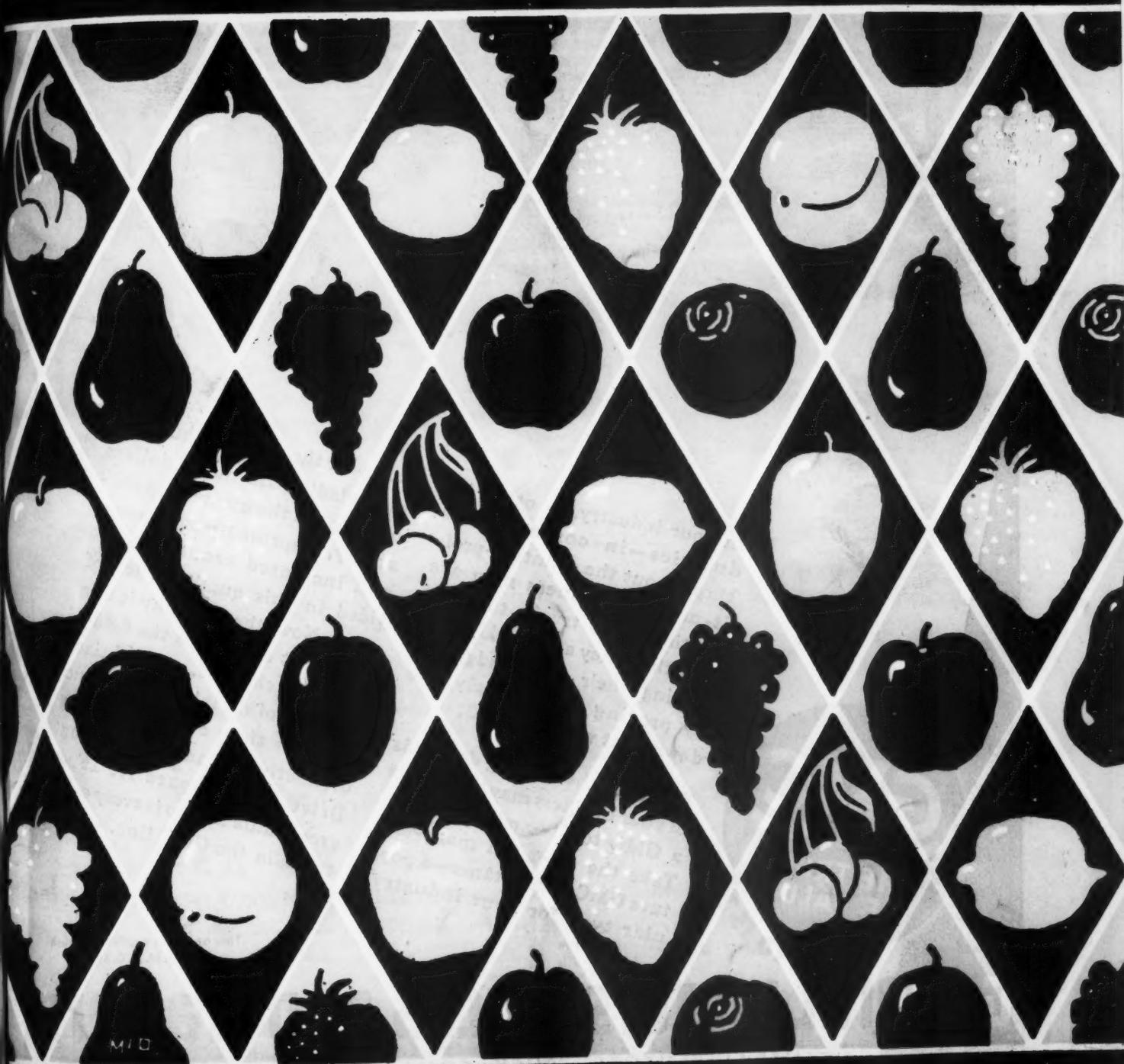


# AMERICAN FRUIT GROWER



SEPTEMBER

1936

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SEPTEMBER

1936

VOL. 56

THE NATIONAL FRUIT MAGAZINE

NO. 9

## "NOR YET THE LAST TO LAY THE OLD ASIDE"

THE HARVEST season is on. This always means rush and bustle, anxiety over the coming of frosts and freezes, packing house equipment and packages, labor organization and care in handling, and what not. But back of it all is the concern over the ledger. For all this season's work the growers want a reasonable profit from their investment. Many will realize these profits and others will not and this leads one to make an inventory of his practices and his orchard and determine, if possible, the reasons for success or failure.

If we were to catalog some of the objectives of the orchardist of the future they would include:

A high yield per acre, which results in lower cost of production.

A better quality product after it reaches the hands of the consumer. This is a problem of better mechanical handling of fruit and better storage facilities.

A thorough study of consumer demand for each market, together with local and statewide advertising.

Superior and hardy varieties.

A better knowledge of orchard soils, that is, a "land use" survey.

A profitable method of disposing of surplus and off-grade fruit.

Each of these objectives is being studied by the federal government, the state experiment stations, and private agencies. To attain these ends the grower must be continually appraising the results of research and discovery and be ready to "lay the old aside" when superior methods or products are at hand.

Not all can be discussed here, but surely the enterprise cannot be profitable until the first of these objectives is obtained. Some orchards seem never to attain great

heights in production. The reason may or may not be clear, but it should be diligently sought. A mature apple orchard which produces an average of less than 200 bushels per acre is likely a borderline case so far as profit is concerned. As it reaches 350 to 400 bushels over a long-time average and the acreage unit is sufficiently large, the venture should be successful.

This means a favorable soil, that is, a deep, fairly fertile, and fairly well-drained one, and a site reasonably free of frosts and severe winter injury and with good marketing facilities.

This is not a preachment for over-production; far from it. The total acreage

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needs to be reduced in some areas and increased in others. The poorly located orchard and the one with unprofitable varieties should go, but one cannot compromise with a relatively high yield per acre and experience a profitable business.

As new practices are introduced, growers may be hesitant about taking them up on their own farms, and rightly so. The production of fruit is not a one-season enterprise, but rather a long-time venture, and growers are reluctant to accept a practice without first seeing it put to a thorough test.

Such tests are continually being conducted by state experiment stations and the results are always available to interested growers. Trained workers at the stations delve into the scientific side of fruit growing to retrieve for the practical grower facts which will aid him materially in his operations.

As improvement comes to the grower, let it be complete. The latest soil management practices will be to no avail if the program of pest control is antiquated.

The adjustment to new practices covering every phase of fruit production must be dealt with by the individual who should always be seeking to improve his business. There may come to some growers a question as to just what to do concerning this matter of orchard improvement. Fortunately, there is often much that can be done to improve the situation. Adequate fertilization, moderate pruning, thorough and timely spraying, drainage when needed, and a soil program that conserves the moisture supply will go far toward reaching the goal. All of these subjects of orchard culture are reviewed from time to time in AMERICAN FRUIT GROWER and the most recent findings are presented by the authorities in the various fields.

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# SOIL MANAGEMENT

## *And Fertilization In Orchards*

By FIRMAN E. BEAR

**A**N ORCHARD soil—to give the best results—must be well drained; it must contain a liberal supply of organic matter; and it must produce good yields of sod or cover crops. On this point there is not likely to be any disagreement.

But a large percentage of our orchard soils do not meet these specifications. Some are too wet. Others contain very little organic matter and are too dry. Others are so unproductive of cover crops that it is a waste of money to sow them until conditions for their growth are made more favorable.

Taking orchard soils as they are, the one well-established soil-management principle is that nitrogen must be supplied regularly for satisfactory growth and productivity of the trees. This nitrogen may be in the form of manure,

legumes or fertilizer. Whatever its source, the effect of its use is the same. It produces a marked increase in the diameter and length of terminal growth; in the size and number of leaves; in the size and number of fruit buds; and in the size and set of fruit. If we do only one thing to the soil to make the trees more productive, that one thing should be to apply nitrogen.

A second well-established principle of orchard-soil management is that provision must be made for supplying large amounts of readily decomposable organic matter. This may be in the form of a winter cover crop; a com-

(Continued on page 16)

If a sod orchard is disked, or plowed, and kept under clean cultivation for a time, the trees often respond remarkably both as to growth and fruitfulness. The effect is much the same as that secured from an application of nitrogen. Photo taken in orchards of Ontalaunee Orchards Company, Leesport, Pa.



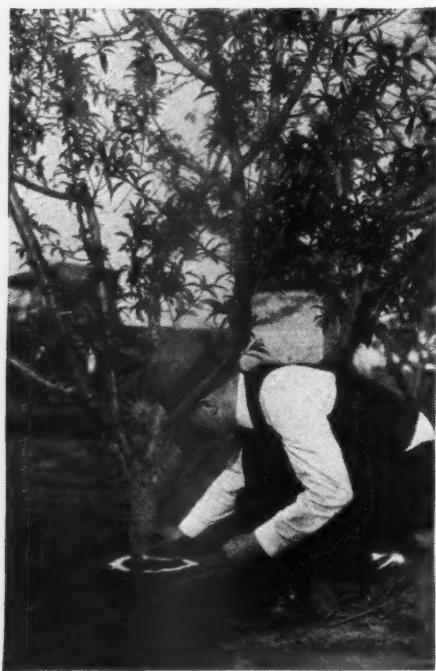
## PEACHES •

### PEACH BORER CONTROL

The worst insect pest of the peach is the peach tree borer. The presence of the borers is readily detected by the appearance of masses of gum and frass around the base of the trunk from about a foot above to two to three inches below the surface of the soil. During the past few years paradichlorobenzene has given excellent control when placed in a ring about the base of the tree during the fall before the ground reaches a temperature of 60° F. From one-quarter ounce to two ounces of the white crystals are used, depending on the age and size of the tree.

At the Fort Valley, Ga., Field Laboratory of the U. S. D. A., a method of applying one pound of paradichlorobenzene dissolved in two quarts of cottonseed oil has been developed by O. I. Snapp. This mixture can be applied as a spray and is more convenient than the old method of placing a ring of the crystals about the base of the tree.

Another investigator, Prof. W. P. Flint of the Illinois Agricultural Experiment Station, has obtained excellent results in controlling peach borers with paradichlorobenzene mixed with a miscible spray oil. The solution as used by Prof. Flint consists of two pounds of the chemical dissolved in one gallon of miscible oil. After the chemical is thoroughly dissolved, six parts of the solution are mixed with four parts of water. By



The ring method of applying paradichlorobenzene which is being replaced by the miscible oil-paradichlorobenzene method. The latter solution is sprayed on the trees, saving time in application.

making this dilution a final mixture of one pint of the oil solution containing two ounces of paradichlorobenzene is obtained. The mixture is applied as a spray, covering the base of the trunk and the surrounding ground. This application is made in the fall as in the ring method of applying the chemical. It is, however, much faster and more economical than the latter method.

Although not recommended, spring treatment is advised if no measures were taken to control the pest in the fall. Prof. Flint states that the miscible oil-paradichlorobenzene mixture is superior to the cotton-seed oil-paradichlorobenzene solutions in the experiments that he has conducted.

Mr. Snapp recently introduced another method of peach borer control using ethylene dichloride emulsified in potash fish-oil soap. This mixture is particularly effective for ridding nursery stock of the pest.

The present belief among peach specialists is that the peach borer may be responsible for the spread of phony peach disease. If this is the case, it is imperative that every effort be made to control the peach borer. The ethylene dichloride mixture is not as yet used extensively on mature trees and the best method of control is to use the miscible oil-paradichlorobenzene solution as described above or the chemical ring where only a few trees are to be treated.

### BOXED PEACHES

Georgia peach growers introduced an innovation this season when they shipped some of the early Hales to northern markets packed in a box similar to the New England apple box. Wholesale dealers in the terminal markets stated that the fruit thus packed moved better than similar fruit in bushel baskets. The box holds about 48 pounds, not quite a bushel. Colored liners were used, giving the pack a neat, attractive appearance.

Only a few growers and shippers in the Georgia peach sections used this type of pack this year but from the acceptance received by the package in the larger markets, it is expected that many will be using the new pack next year.

### PEACH MOSAIC

Peach mosaic, which has been found in Texas, Colorado and Utah has been definitely identified as the disease causing trouble in peach orchards of the Yucaipa Valley in California. State authorities have proposed the removal of diseased trees, but growers oppose such action claiming that more information concerning the effects of the disease should be made available before their trees are removed.

## PEARS •

### PRODUCTION COSTS

It has been found by workers of the Washington Agricultural Experiment Station that the average cost of producing pears in orchards of the Yakima and Wenatchee valleys in Washington is 87 cents per box of packed pears and \$18.77 per ton for cannery pears. Yields in the Yakima orchards range from 80 to 880 boxes per acre, with an average of 268 boxes. In the Wenatchee orchards the yield varies from 105 to 945 boxes per acre, the average being 421 boxes. The higher average yields in the Wenatchee districts result in a lower cost per unit than that prevailing in the Yakima section. Yields of cannery pears are 16.3 tons per acre in the Wenatchee territory and 7.8 tons per acre in the Yakima districts, according to the investigations.

In Bulletin 307 of the Washington Agricultural Experiment Station the Washington investigators state: "Where the average production was 355 boxes per acre, average total cost was 87 cents per box. With a yield of 500 boxes per acre the cost would have been 75 cents per box and with 700 boxes per acre, 65 cents per box. With only 250 boxes to the acre, the cost would have been \$1.05 per box."

It must be kept in mind that these figures are for sections having their own particular type of production and cultural developments. For the country as a whole they are, however, of interest for comparative purposes. Production costs in the various pear sections compare primarily with the above.

## BERRIES •

### TIP LAYERING

Black and purple raspberry varieties are propagated by tip layering, commonly known as "tipping." During late August and early September the ends of the canes droop to the ground and the tips assume a snake-like appearance with small curved leaves. If the tips are in contact with rich, moist soil they develop roots. As only a small portion of the tips root naturally, it is necessary that the grower bury them to make certain that they will remain in one place and develop roots. Tips taken from two or three-year-old plants are best as they are more vigorous and less subject to disease.

Tipping is usually done by digging  
(Continued on page 10)

SEPTEMBER, 1936

# WHY

# HOW



## "AN APPLE A DAY KEEPS THE DOCTOR AWAY"

### NEW DEVELOPMENTS IN NUTRITIONAL VALUE OF APPLES

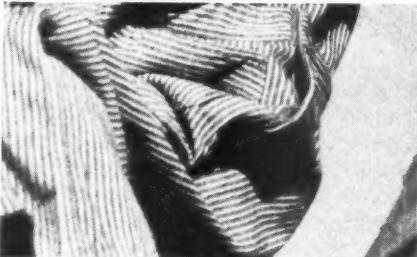
**T**HREE is a sound scientific basis for serving apple sauce with pork, lemon with salmon and cranberries with turkey, according to Dr. Ira A. Manville, director of Nutritional Laboratory, Oregon Medical School.

"Science has at last supplied the reason why the apple has been esteemed through the ages for its healthful properties," Dr. Manville's studies reveal. He traces the legendary history of this fruit and shows how among many races and many lands it had become a symbol of health and beauty.

"People have long known the value of the apple in the diet," he declares, "but this knowledge was the outgrowth of experience and it has only been very recently that the laboratory has revealed the various elements which are packed inside the skin of this ancient fruit."

"Many varieties of apples have been found to be good sources of Vitamin A, although some of the leading works on nutrition have credited apples as having only a moderate Vitamin A content. Actually the Vitamin A value varies with the variety and while it is true that some varieties may be poor sources of this vitamin, the Spitzenberg, Yellow Newtown, Winesap and Arkansas Black have from 34 to 36 units per ounce, while the orange, commonly believed to be a good source of Vitamin A, has only 20 units."

Explaining that there is also a similar variation of Vitamin C value in different varieties of apples, Dr. Manville, in his talk before the International Apple Association convention at Boston, urged care in the selection of varieties for production. In regions adapted to apple production, he stated, the apple could be



depended upon as the principal source of the vitamin that prevents scurvy—one of particular value because the apple is generally consumed raw.

An entirely new and revolutionary view of the nutritive and therapeutic value of the pectin in apples was advanced by Dr. Manville as the result of an exhaustive research which he has directed on this fruit for the past three years. He points out its utility in forming the chief source of bulk in the intestinal content because of its ability to take up a large amount of water.

"By doing this," he explained, "the pectin forms a colloidal mass that stimulates intestinal activity but does not injure the mucous membrane lining the tract. That portion of the pectin which is digested gives rise to certain products such as galacturonic acid which when absorbed and carried to the liver enables that organ to get rid of many poisons.

"The chief sources of pectin today are from the peel of the citrus fruits and from apple pomace. In eating citrus fruits, the peel is discarded and the juice contains very

### RESULT OF RESEARCH AND CLINICAL EXPERIENCE

little of this ingredient. There is probably no fruit the edible portion of which exceeds the apple in its pectin content."

It is to the detoxicating effects of some of the acids derived from the pectin of apples that Dr. Manville attributes much of the value of the apple diet in cases of intestinal disorders and various toxic conditions.

He pointed out the remarkable results that have been obtained clinically in the treatment of children with raw apple pulp for various intestinal disorders and from the use of apple powder in connection with infant feeding.

"When the therapeutic value of the apple is more generally recognized, and this is simply a matter of education," he declared, "it will be used prophylactically as much or more than any other therapeutic use to which it may be put. I do not hesitate to say that to children in large cities and to those living in areas where it is common for the temperature to reach high levels, such methods of prophylaxis or therapeutic treatment will prove to be one of the greatest blessings of recent times. The curative factors found in the apple need not be limited to children. Evidence is accumulating that adults suffering from such conditions as intestinal ulcers may be cured by the use of apple pomace or apple powder.

"The apple more than any other food with which we are acquainted possesses in the highest degree these therapeutic advantages. Fruits such as the apple should be considered as being more than foods. They are medicinal agents possessing prophylactic and therapeutic powers."

#### USE THESE POINTS IN YOUR OWN APPLE PROMOTION

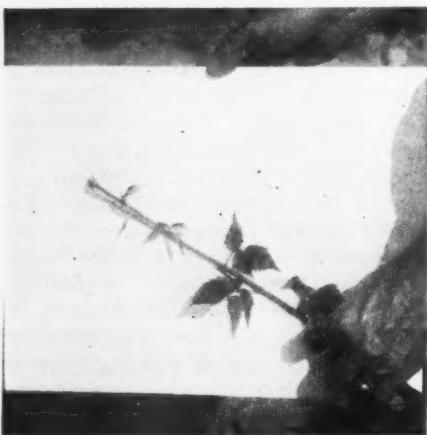
Fruit growers are urged to use the health facts about apples which are set forth in this article in their own sales promotion activities.

## BERRIES

• *Continued from page 8*

a hole in the soil with a spade or trowel, inserting the tip vertically to a depth of three inches, and pressing the soil against the buried tip. By fall the tip will develop a good root system and the following spring it is dug and cut from the original plant. Usually about six inches of the tip of the cane is left on the new plant when dug as this serves as a handle for tying when the plants are bunched. The young plant may be grown a year in the nursery and then set as a transplant. In most cases the tip plant is satisfactory and the additional cost of transplants is not warranted.

The tip plants are delicate and may be injured easily. Since they do not ship well, it is best for the grower to raise his own plants or purchase them from nearby plantings. Tips that are grown on sandy or loamy soils are superior to those produced on clay soils.



The above illustration shows the maximum stage of development for tipping the black raspberry. This is the Cumberland variety.

### RASPBERRY PRUNING

Pruning of black raspberries does not have the same effect on fruit yields every year according to results of tests conducted for the past five years at the Ohio Agricultural Experiment Station. Dr. Leon Havis, in charge of small fruit investigation at the Ohio Station, states that the variability was probably due to climatic conditions. It is apparent from the tests that, in order to obtain the highest yields of marketable berries, there should be five to seven of the most vigorous canes per plant with the lateral branches pruned to eight to 10 inches. This is based on rows eight to nine feet apart with plants about three feet apart in the row.

### COVER CROPS

After the old canes have been removed from the raspberry planting the ground should be cultivated and

a cover crop sown. On most soils better cover crop growth will result if 250 pounds of superphosphate and 50 pounds of muriate of potash per acre are worked into the soil during the last cultivation. A mixture of rye and vetch makes a desirable cover crop for brambles and there are others that may be used with success if desired. When the soil is not subject to erosion and it is not essential for the cover crop to live over winter, oats, millet and buckwheat are sometimes used. Red clover and sweet clover can be used as overwintering crops instead of rye and vetch. It is essential that overwintering cover crops be disked down early in the spring so they will not compete with the canes for moisture and nutrients.

### STRAWBERRY PLANTING

Fall planting of strawberries may be practiced if desired, but there is danger of plant loss from winter heaving. Growing conditions are not as good as they are in the spring and a crop is obtained no sooner than when the plants are set in the spring. It is preferable, then, to set plants early in the spring rather than in the fall.

### RASPBERRY THINNING

In nearly all raspberry plantings there are weak canes which should be removed. They may be left until spring pruning or taken out when the fruited canes are removed in the fall. Further thinning may be desirable in some cases. The Michigan Agricultural Experiment Station suggests 10 canes in four feet of row for red raspberries. If grown in hills three by seven feet, it would require about eight canes per hill to equal the 10 canes in four feet of row. Four canes per plant of the black and purple raspberries give satisfactory results when the planting is four by eight feet.

Workers at the Illinois Agricultural Experiment Station suggest leaving all canes over one-half inch in diameter since the average plant can support all the canes of value for fruit production that it produces.

### ELDERBERRY PRODUCTION

Although little headway has been made in the commercial production of elderberries, there is a marked demand for this fruit in certain sections. The elderberry will thrive on any good soil and the bushes do not require much care. New canes are produced at intervals which cut out the old canes. The plant is easily propagated by hardwood and greenwood cuttings or pieces of roots and from seed. Adams Improved variety pro-

duces fruit one-quarter of an inch in diameter. Superb, a Luther Burbank origination, is an excellent variety.

## APRICOTS •

### INCREASES PLANTING

Ralph Girling, operating the 250-acre Antelope Hill fruit ranch at Delta, Colo., is increasing his apricot acreage. He hopes to have 10,000 apricot trees on his ranch in seven or eight years. At the present time he has ample facilities for irrigating 220 acres of the ranch. The supply of water comes from the longest siphon in that section of the country. More than 12,000 feet of 12 and 14-inch pipe comprise the system which brings water from a creek across a valley and up on a mesa where the fruit ranch is located.

### DRYING

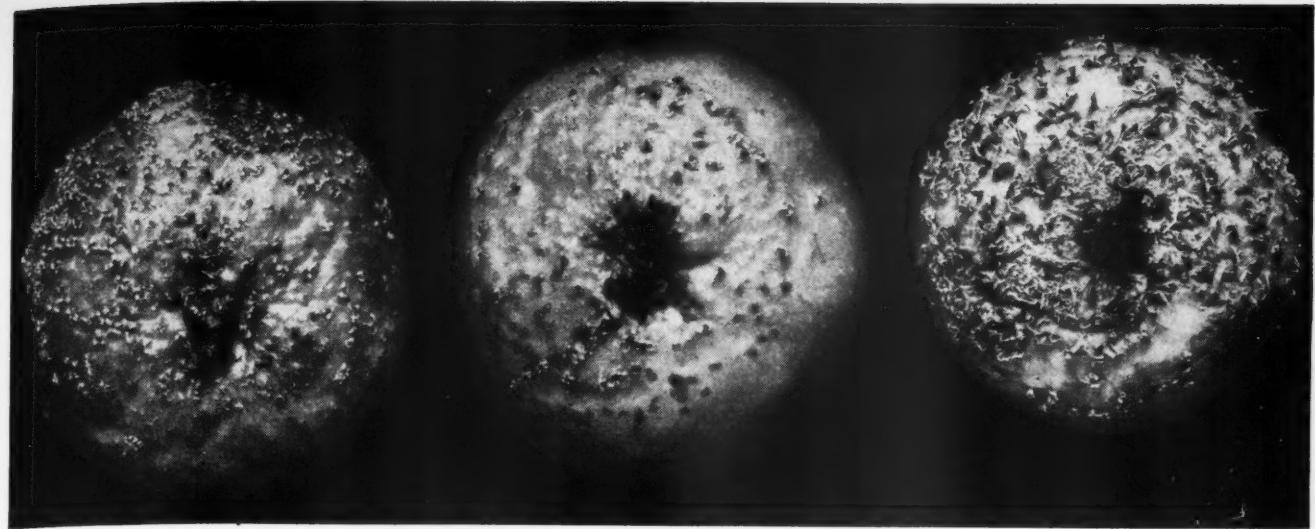
The fruit is slit, the pit removed and the halves with the cup side up are laid on trays which are exposed to sulphur fumes in the bleaching house for three hours. The fruit is then dried in the sun for two days, then in the shade for two or three more days and then stored until needed. Five pounds of the fresh fruit will make one pound of the dried product.

## CITRUS •

### TRANSMIT DISEASE

Dr. H. S. Fawcett, plant pathologist at the California Citrus Experiment Station at Riverside, has recently discovered that buds used in propagating citrus trees may transmit scaly bark disease from infected trees to the budded stock. As a result of Dr. Fawcett's work, citrus nurserymen are co-operating with the citrus experiment station to develop a program of propagating better citrus trees. Their work will consist of careful inspection of all material used in the budding work to prevent the contamination of this material and the resulting transmission of the bark disease to new stock. Tests are being continued at the experiment station to increase the knowledge regarding the spread of the scaly bark on citrus trees and the relation of this spread to young citrus stock.

Scaly bark disease causes oily, greenish blotches on the bark which crack open. Infected fruit has depressed, blackened areas which render it unfit for market. The fungus causing the disease was first isolated by Dr. Fawcett in 1911.



Various stages of the characteristic symptoms of cedar rust disease on mature apple fruit.

# RUST DISEASES OF APPLES

By W. H. ZIPF

FOR many years growers have destroyed cedar trees in the vicinity of orchards to control apple rust, which has one of its development stages on the cedar. Where constant attention has not been given to the removal of cedar trees, the rust disease has caused considerable damage.

Not only is apple rust causing trouble in eastern fruit sections, but with it appears quince rust, a relatively new disease that is particularly harmful to Delicious, Winesap, McIntosh, Stayman and Black Twig varieties. Since it is commonly found on quince fruit, this disease is known as quince rust.

The familiar apple rust is harbored on the cedar tree as galls or "cedar apples," while quince rust occurs as perennial cankers on the trunk and branches of the cedar. Apple rust spots on the fruit and foliage are orange in color, while quince rust spots, which occur only on the fruit, are sunken and dark green.



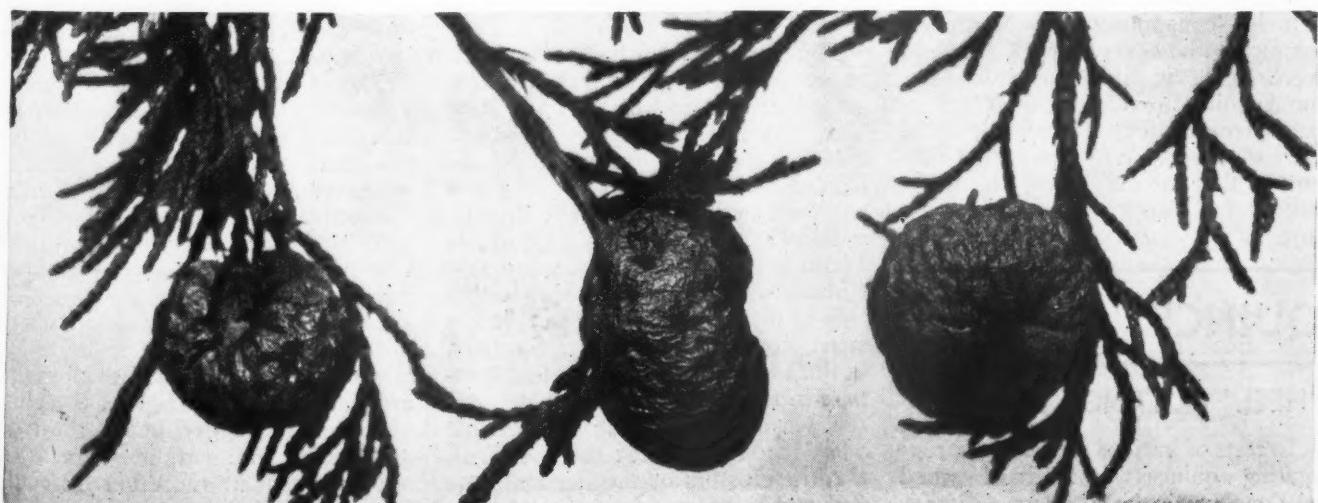
Another rust disease of the apple that may cause damage is hawthorn rust. This disease is "carried" over-winter on the cedar in the same manner as apple rust and causes the same type of damage to the apple tree except that the spots are smaller.

Fruit infected with these rust diseases is usually thrown into the cull class, particularly in the case of quince rust which eventually causes the flesh of the apple to rot.

F. J. Schneiderhan, associate plant pathologist of the West Virginia Experiment Farm at Kearneysville, reports that in the case of leaves having only four rust spots 22 per cent drop before August. This defoliation results in reduced tree vigor, failure to produce fruit buds and reduction of the size of fruits on the tree.

(Continued on page 18)

Left—Under side of apple leaf showing effect of cedar rust. Below—Gall or cedar apples in winter condition on the red cedar.



## CHERRIES •

### SEEK NEW VARIETY

Better varieties of sweet cherries that would be free of the serious defects of present standard varieties are needed to place this delicious fruit on an equal footing with apples, pears, peaches, and plums in commercial fruit growing, says Prof. F. M. Coe in a recent issue of *Farm Research*, the quarterly magazine of the New York Agricultural Experiment Station at Geneva, on the sweet cherry breeding program under way at the station.

Sweet cherries are popular with consumers because of their crisp, juicy flesh, refreshing flavor, and their appearance on the market at a time when fresh fruits are scarce, but low yields due to serious faults of most of the varieties now grown make sweet cherry growing impractical as a commercial venture, he says. Lack of hardiness in bud and wood, lack of vigor and productivity, and susceptibility to certain diseases and to depredations of birds are cited as among the chief obstacles to be overcome in breeding better varieties of sweet cherries.

The chief objective of the station's cherry breeding program is to combine in two or three new varieties all of the good qualities of sweet cherries in general with double the average annual yield of salable fruit and without loss in size and quality as represented by the best of present-day varieties.

As an indication of the difficulties encountered in breeding cherries, Prof. Coe points out that the station has been breeding sweet cherries for years and now has over 900 seedlings, but to date only two new varieties have been named and introduced, and even these are not all that is desired. Improvements in technique made in recent years may speed up the cherry breeding program, it is said, although at best it is a time-consuming job. As a good beginning, however, over 300 crosses were made in 1935 involving the hand pollination of over 90,000 blossoms from which some 9,000 seeds were obtained. Who knows but that out of this lot may come the long-sought-for sweet cherry of the future?

## QUINCES •

### "HEEL" CUTTINGS BEST

In tests of various methods of propagating quinces from hard wood cuttings, particularly as rootstocks for

pears, specialists at the New York State Experiment Station at Geneva have found that "heel" cuttings are distinctly superior to "straight" cuttings, and that wood collected in the fall and stored in the nursery cellar in sand over winter gives better results than wood collected in the spring.

For the purposes of these tests material was obtained from the East Malling Research Station at East Malling, England, and consisted of wood collected in November when the plants were dormant but before they had been subjected to any severe cold, and another lot collected in late February or early March while the plants were still dormant.

Both the fall and the spring-collected wood were subjected to two types of cutting. In one lot "straight" cuttings were made by making a clean, straight cut of the knife and consisted solely of the wood of a single shoot. In "heel" cutting, the lateral shoots were torn from the main stem so that a portion of the latter remained at the base of the cutting.

In the first season of the test the heel cuttings gave almost 83 per cent of rooted plants as compared with 51 per cent from the straight cuttings. Also, the stand from the wood collected in the fall before it had been exposed to cold weather was much higher than that secured from spring-collected wood. In one lot of fall-collected wood the stand was 59 per cent as compared with only 13 per cent for spring-collected wood, while in another case the fall-collected wood gave a stand of 83 per cent and the spring-collected wood only about three per cent. Although these figures are for only one season, the same general situation has been observed to apply for several seasons past, it is said.

## GRAPES •

### SUPERIOR VARIETY

The superiority of the Fredonia grape variety is clearly shown this season in the vineyards of the New York Agricultural Branch Experiment Station at Fredonia, N. Y. Fred E. Gladwin, who for 28 years has been in charge of grape investigations at this station, says that the Fredonia vines are bearing heavily while the Concord yield in that section is discouraging. Cause for the latter condition, says Mr. Gladwin, is the heavy infestation of leaf hoppers in that territory during the past few seasons, and the drought of this year. In the face of these difficulties the clusters of the Fredonia are full and tight and the fruit is clean.

The Fredonia variety is the result of a cross made by Mr. Gladwin between Champion and Lucille, neither of which is considered a good variety. Its season is the same as that of Moore and it is about 10 days earlier than Worden, yet it will hang on the vine in good eating condition until the last of the Concords have been harvested. This factor alone is of importance, as the variety may be left on the vine for some time after ripening if other varieties are ready for picking and there is not sufficient help to take care of the Fredonia at the same time. This also adds to its value from the commercial standpoint for if early grapes are selling at a low figure, it can be held for better prices.

In order to give this new variety a complete test, Mr. Gladwin has sent it to grape growers in all parts of the country and their reactions to it have been most favorable. There has been some question as to its



F. E. Gladwin looking over Fredonia grapevines in New York Agricultural Branch Experiment Station vineyards at Fredonia.

quality when compared with Concord, but most grape enthusiasts have declared that they would eat it as readily as Concord. Since it matures early, ripeness is assured for any season.

The Fredonia variety is more vigorous than other commercial sorts, and this year at the Fredonia station there is a marked difference in the vines of the Concord and the Fredonia. The latter, which is growing in an adjacent row to the Concord, has a much greater foliage development.

Clusters of Fredonia are about normal in size and are made up of large berries. When the blossoms are just set it appears that the cluster is to be straggly, but as the fruit approaches the eating stage it is apparent that no more berries could be accommodated on the pedicels.

SEPTEMBER, 1936

# AMERICAN POMOLOGY

A Page Conducted in the Interests of the  
American Pomological Society

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Edited by H. L. LANTZ, Secretary

## WEATHER AND THE FRUIT GROWER

THE past three years have dealt agriculture, and fruit growers in particular, some pretty poor cards. The season of 1934 was dry, last year fruit growers suffered from low prices because of over-production, and this year the fruit industry east of the Rocky Mountains is staggering under excessive heat and drought. Through much of this area the winter injury problem has loomed large, for a great many peach trees were killed outright and apples suffered much in some regions. Present prospects indicate slightly more than 100,000,000 bushels of apples in sight, which will be further reduced if the drought continues.

Orchard irrigation is not an uncommon practice in the East and those growers who have the water supply and equipment to apply it are in a position to make some real money in this short crop year. The irrigated sections of the Far West, according to the federal crop estimates, will produce 45 per cent of the commercial crop of apples.

The peach crop of 43,000,000 bushels is short of the five-year average crop of 53,000,000 bushels. The pear crop is slightly ahead of last year, with the lions' share of the crop being produced in the West. Grapes are also short, with an estimated yield of one and three-fourths million tons, as compared with the five-year average of over 2,000,000 tons.

Business conditions throughout the country are reported as good. Extensive drought damage, as yet undetermined as to its effects on business, will doubtless have a considerable effect on prices received for such fruits as grapes, pears and apples.

## STATE SOCIETIES

A number of state horticultural societies have affiliated with the American Pomological Society this year, thus indicating their appreciation and support of the work of the A.P.S. Prof. F. H. Beach, extension horticulturist at Ohio State University and secretary of the Ohio State Horticultural Society, mails a very much alive news letter to the membership of the Ohio society every month. Some of the state societies publish a magazine for their members. Secretary H. J. Rahmlow of the Wisconsin society edits *Wisconsin Horticulture*, which has filled a real need and has made many friends for the Wisconsin society. The North and South Dakota societies publish jointly a most interesting little magazine, while over in West Virginia Secretary Carroll R. Miller edits a splendid publication each month. Maryland, Indiana, Illinois and Virginia also publish periodical booklets and news letters for their members. These society publications

keep the fruit growing interests of these local groups well informed on all those phases of horticulture which are vital to the industry, and at the same time prove the great usefulness of these societies to the commonwealths which they serve. Every fruit grower ought to belong to his state horticultural society, and could also well afford to join the American Pomological Society. The annual dues in the A.P.S. are only \$1.25, which entitles you to a year's subscription to *AMERICAN FRUIT GROWER* and a copy of the big

290-page report of the convention held at Hartford. Growers who are interested in farm cold storage should have this report, for it contains 32 pages of authoritative information relative to cold storage construction, costs, insulation, operation, humidity, air circulation, temperatures, varieties in cold storage, diseases of the apple in cold storage, etc.

Send remittance of \$1.25 for 1936 dues in the A.P.S. to H. L. Lantz, secretary, American Pomological Society, Ames, Iowa.

How many of you take time to go through the annual reports of your state horticultural societies? This writer believes that these reports contain more real boiled-down-to-the-point information concerning every-day problems of the horticulturist than can be found anywhere else. Findings of the scientist are presented in the every-day English of the orchardist, and can be read and understood by all of us. These contributions are therefore not only instructive, but are interestingly written and summarize the results of research in a way that is designed to make available to the fruit and vegetable grower all the information available on a particular subject.

Not long ago I took occasion to do a little library research as to those states which have a going state horticultural society and are publishing annual or biennial reports. Some of these state societies have been and still are publishing an annual report without interruption since their organization. Some of these are Illinois, Iowa, Michigan, Indiana, New York and Nebraska. Several publish biennial reports, while others have quit publishing annual reports as such and instead are publishing monthly magazines or quarterly bulletins.

If one wants to trace the development of horticulture in any particular region, these reports afford an excellent opportunity for such a study. They contain a permanent record of the problems of the day, as well as what was being done to solve them. The value of these reports will increase as the years go by. Certainly all the effort and money expended in publishing such reports is well spent.

## GRASSHOPPERS

Through southern and western Iowa the drought has been severe. Grasshoppers have come to add insult to injury. These pests have displayed considerable appetite for apple foliage, and most young orchards have been defoliated in this area. Peculiarly enough, the hoppers have so far passed up Golden Delicious foliage and prefer Jonathan, Grimes, Delicious and others. In one orchard a row of Golden Delicious growing alongside of Jonathan has been scarcely touched, while the trees of Jonathan have been completely defoliated. The foliage of pears, peaches and cherries has been relatively unmolested.

## NATIONAL APPLE INSTITUTE

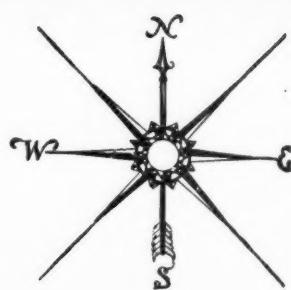
Widespread interest in advertising the apple should not be allowed to lapse because of a short crop this year. The consumption of apples has declined, and apple growers have come to realize that if the apple is to regain the place it once occupied, advertising on an extensive scale must come into the marketing picture. Extensive advertising undoubtedly has been a decisive factor in the marketing of increasing quantities of other fruits.

Last year the National Apple Institute made a fine beginning. Regional institutes have been organized and are doing effective work. Certainly these groups have enough in common to warrant some serious effort at co-ordinating the attempts of all sectional groups. King Apple will benefit by these advertising campaigns, and growers, no matter where located, will benefit by any increases in consumption which result from popularizing the apple. To adequately finance this advertising campaign is, or should be, a matter for growers to very carefully consider. Present plans call for only a small amount per bushel of packed fruit, but if every grower will do his part the whole program will succeed, to the lasting benefit of all who are engaged in the apple growing business.

As was reported in the July number of *American Fruit Grower*, C. J. Neal, prominent fruit grower of West Richfield, Ohio, was elected president of the National Apple Institute. The stage is well set, and it is now the fruit grower's turn to play ball. Advertising will do for the apple exactly what it has done for the orange, for the banana, and the pineapple, but it must be adequately financed, wisely planned, and have continuity for many years in order to have an appreciable effect.

# STATE NEWS

## FROM NEAR AND FAR



**NEW YORK**—More than 1000 persons attended the summer meeting of the New York State Horticultural Society at Point Breeze, on Lake Ontario, August 19. Featured on the business program was Dr. A. J. Heinicke of Cornell University, who talked on "Fruit Prospects and Orchard Conditions". A report on the progress being made in the promotion of apples by the New York and New England Apple Institute was presented by E. Stuart Hubbard, Poughkeepsie, and Henry S. Orthga, New York. Hon. Chauncey B. Hammond of Elmira was the final speaker on the program.

Tours were made to orchards in nearby counties conducted by farm bureau managers of the counties. The group gathered at Point Breeze for lunch and the speaking program.

Following the meeting of the New York society, the New York State Nurserymen's Association held their summer meeting at the New York Agricultural Experiment Station at Geneva on August 20. Those in attendance at the meeting were particularly interested in the work being carried on at the station in the propagation of fruit trees, raising of fruit stock and general nursery problems relating to the handling of nursery trees for orchard planting. Many were interested in the collection of varieties of hardy fruits.—H. B. TUKEY, Geneva.

**IOWA**—Orchardists in the Harrison County fruit district played host to members of the Iowa State Horticultural Society for the annual orchard tours on August 14. More than 100 growers took part in the tours, observing insect and disease control, soil management and cultural practices followed in the orchards visited.—R. S. HERRICK, Sec'y., Des Moines.

**OHIO**—Fine attendance featured the meetings of the Ohio State Horticultural Society held during August. The southern Ohio meeting was held at the Vandervoort Orchards at Jamestown with 400 persons present. More than 800 persons attended the north-

ern Ohio meeting at the orchards of Mantle and Mantle, Painesville, August 20. An interesting feature of this meeting was the system followed in conducting the tour of the orchard. H. L. Mantle talked through a loud-speaker on his car during the tour and his interesting observations were plainly heard by the crowd which walked behind the car. The business meeting followed lunch in the new packing house on the farm and was featured by the talks of Clarence J. Neal on the National Apple Institute, Hubert Neal on the Ohio Apple Institute and a message by Mr. Mantle. Mr. Neal, president of the National Apple Institute, stated that the response to a request for contributions to the institute had been excellent. Dr. C. R. Cutright of the Ohio Agricultural Experiment Station gave a short talk on aphid injury on fruit.

The annual Ohio Orchard Day was held at the Ohio Agricultural Experiment Station August 21 with more than 700 present. Dr. J. R. Magness of the U. S. D. A., principal speaker of the day, delivered a message on apple production trends. During the morning tours were made of the station orchards, with specialists located at strategic points to explain the experiments. Extensive commercial exhibits were features of these meetings.—F. H. BEACH, Sec'y, Columbus.

**PENNSYLVANIA**—The second annual Orchard Field Days of the Pennsylvania State College were an even greater success than those of last year. More than 200 people, representing a large portion of the state, were present, as well as visitors from Ohio, New York, New Jersey, Maryland, Virginia and West Virginia. Meetings were held in the orchards and exhibitors were able to show their wares in actual use. The college program was built around the topics of soil erosion, winter injury, recovery and rejuvenation of underfed trees and experimental work with various spray materials. Specialists of the station and extension staff were available for consultation on individual problems of growers.

The summer meeting of the state society was held during the field days. Speakers at the meeting were Dr. F. E. Bear, who discussed, "Some Soil Fertility Problems in the Orchard"; W. Lee Allen, who talked on, "The Efficient Handling of Apples and Peaches Through the Packing House;" and Carroll R. Miller, who told of the promotion work of Appalachian Apples, Inc., of which he is secretary. Growers in attendance requested the Department of Horticulture to stage a similar meeting in 1937.—R. H. SUDDS, Sec'y, State College.

**ILLINOIS**—More than 800 acres of fruit were observed by members of the Illinois State Horticultural Society on their recent annual summer tour to the Rock Island section. Attendance was good and those present seemed interested in the possibilities this section offers as a fruit district. The soil seems particularly adapted to the growth of apple trees. Growers in this district have produced fine trees and have been able to bring them into production at an early age.

Following the tour, members of the society, including John A. Gage, Mt. Vernon; Dr. R. W. Kelly, Urbana; O. G. Jones, Mt. Sterling; W. H. Beauman, Tunnell Hill; the writer and their families visited the orchard of Dr. R. H. Roberts at Gay Mills, Wis. Dr. Roberts has a good fruit crop this year and is an advocate of a type of pruning which he believes will aid in keeping trees in annual production.—JOE B. HALE, Sec'y, Salem.

**WEST VIRGINIA**—Harry W. Miller, Jr., president of the West Virginia State Horticultural Society, will name committee soon for the second annual Apple Fair to be held at Martinsburg, November 10-12. The dates for this celebration of the Eastern Panhandle's principal soil industry were set at a recent meeting of the society executive committee. An innovation for this year's fair will be an outdoor pageant. Initial plans disclose that the 1936 fair will be larger than that of last year.—CARROLL R. MILLER, Sec'y, Martinsburg.

**INDIANA**—Members who attended the summer meeting of the Indiana Horticultural Society witnessed a severe infestation of grasshoppers on young trees at the Doud Orchards in Miami County. A side-hitch "hopper-dozzer" has been used in the orchard and G. E. Lehker, Purdue extension entomologist, stated that poison bait would be a better and cheaper control than spraying the alfalfa cover crop in the young orchard with a stomach poison. Crankcase oil was used as the killing agent in the bottom of the "hopper-dozzer."

At the afternoon meeting, which followed tours of the orchard in the morning, Lloyd Berger, vice-president of the Miami County Horticultural Society, and Homer Coffing, president of the state society, gave brief talks, while L. V. Doud told of the operations in his orchard which have brought him success over a period of years. Outstanding points in Mr. Doud's talk were: Maintain proper conditions for an adequate root system; maintain an adequate supply of available plant food; choose and maintain proper soil for best moisture relationship; control insects and diseases attacking the foliage; avoid concentrated or caustic sprays where a



Growers at northern Ohio meeting of the Ohio State Horticultural Society inspect commercial exhibits in front of the packing house of the Lake Erie Farms Orchard, where the meeting was held.

milder spray will give the desired result; take measures to prevent excessive production for any given year; and follow a program of light annual pruning. Dr. C. E. Baker talked on moisture relationships in the orchard and stated that most Indiana growers could make an application of a bale of straw per tree as a mulch for a good investment.—EVERETT WRIGHT, Sec'y, Lafayette.

MINNESOTA—Northwestern Greening and Haralson are among the few varieties of apples producing good crops this year. The Haralson has shown excellent resistance to low temperatures and is the best hardy apple grown in Minnesota at the present time.—J. D. WINTER, Sec'y, St. Paul.

KANSAS—Excessive heat and drought have been hard on older trees in Kansas orchards. Indications are that many trees will have to be replaced, and growers in most sections are making their plans accordingly.—GEORGE W. KINKEAD, Sec'y, Topeka.

VERMONT—Starting at Kinderhook, N. Y., members of the Vermont Horticultural Society toured the Hudson Valley fruit district, August 18-20. At one of the stops on the tour, Dr. J. M. Hamilton of the New York State Agricultural Experiment Station talked on "Spraying Experiments for the Control of Apple-Cedar Rust." The new co-operative fruit auction at Highland was also visited.—M. B. CUMMINGS, Sec'y, Burlington.

ARKANSAS—Growers in southern Arkansas have received the best prices in several years for their peaches. The crop is about 40 per cent normal. Berry beds have been badly injured by the drought, and it now appears that the only berries picked next year will be those from new beds.—PAUL P. BROGDON, Sec'y, Springdale.

## INTERNATIONAL HORTICULTURAL EXPOSITION

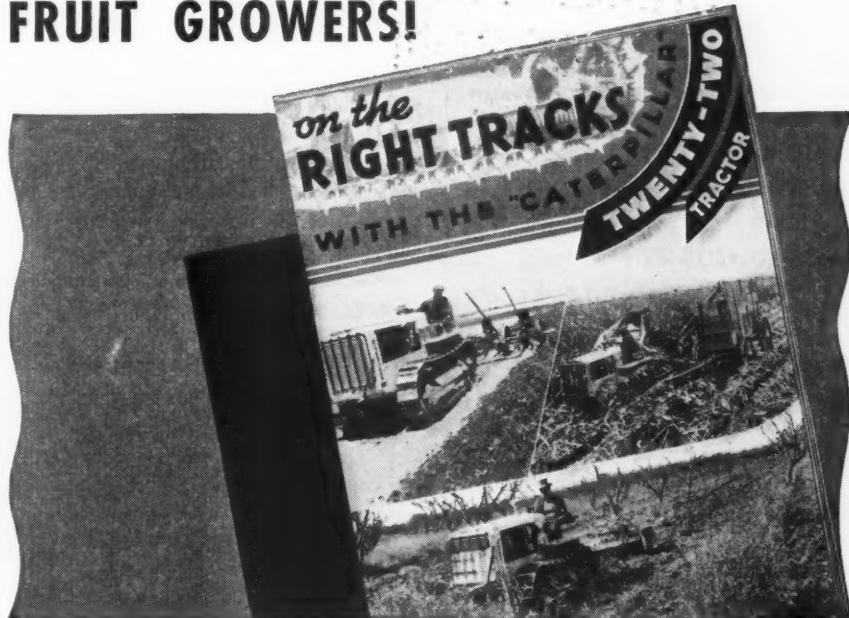
Fruit growers in all sections of the country have expressed their interest in the first International Horticultural Exposition to be held in Chicago, September 12-30. The fruit exhibit at the exposition is under the direction of Prof. B. S. Pickett, president of the American Pomological Society, who says: "It is the responsibility of every progressive fruit grower in the United States to do his part in making this first nationwide fruit exhibit a success. I am urging every grower, who is able, to place an entry in the fruit exhibit at once. Excellent premiums will be awarded winners in each class, and the entire exhibit will be for the good of the industry." Details of the International Horticultural Exposition appeared in the August issue of AMERICAN FRUIT GROWER.

## Nut Plantings Lure Growers

THE extensive filbert collection on the grounds of the New York State Experiment Station at Geneva and proximity of the station to the large collection of nut varieties at the College of Agriculture of Ithaca were important factors in attracting the Northern Nut Growers Association to Geneva for its 27th annual meeting September 14 to 16. The association has a widespread membership in all sections of

SEPTEMBER, 1936

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the country and is planning a full program for its three-day meeting.

The station filbert collection has been an undertaking of interest to nut growers, both professional and amateur, throughout the United States for the past several years. It now includes about 120 varieties and nearly 2,000 seedlings obtained from various crosses. Some of the most promising of these seedlings will be exhibited at the meeting. The chief objective of the station's filbert breeding program is to obtain varieties that will combine the large size and good quality of the European type of filbert with the vigor and hardiness of the American type. Notable progress is being made in this direction.

A wide range of topics will be dealt with on the formal program, including the ever-present question of approved varieties, vari-

ous phases of nut tree breeding and nut tree culture, stock and scion relationships, grafting, and work with blight-resistant chestnuts. The third day of the meeting will be devoted to a trip to the nut plantings at the College of Agriculture at Ithaca, where many varieties of nuts other than filberts are being grown.

Those attending the meeting at Geneva will also have an opportunity to inspect the extensive variety orchards and vineyards maintained by the experiment station. It is estimated that nearly 2,000 standard varieties of the hardy fruits are growing on the station grounds, with thousands of seedlings of all of the fruits under test in the station's fruit breeding program.—G. L. SLATE, horticulturist, New York Experiment Station, and secretary, Northern Nut Growers Association, Geneva, N. Y.

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## SOIL MANAGEMENT

(Continued from page 7)

bination of summer and winter cover crops; or a permanent sod crop, with or without the supplemental use of mulching material. Of these several methods, the growing of a well-fertilized permanent sod of grasses and clovers is the surest way to maintain an adequate supply of available organic matter in the soil. This method has the very important advantages that it is the most economical and it stops erosion, by far the most serious enemy of fertile soils.

There are conditions under which

as fire, rodents, insect pests and disease organisms must be kept in mind. One or more of these may force the adoption of an annual cover-crop system. But I am impressed by the fact that many of the best orchards, with which I am familiar, have been in permanent sod ever since the trees were well established. These orchards include not only apples, but peaches, cherries, and citrus as well. The only ordinary farm implement used regularly in many of these orchards is the mower.

If not properly handled, a per-



Thorough distribution is necessary for success from nitrogen applications. Such applications should cover the area extending beyond the branches of the tree, as shown in the above photo.

the permanent-sod or sod-mulch method of maintaining the supply of organic matter in orchard soils may not be satisfactory. Such hazards

manent-sod cover may gradually become largely a mat of grass roots and tops, much of it dead material. Under such conditions, the trees may begin to show a lack of vigor and to drop their leaves early. They may appear to be suffering from drought. In reality, they are probably suffering from lack of nitrogen. The dead organic matter is the energy-food of soil micro-organisms. In proportion as the supply of organic matter increases, these micro-organisms become successful competitors for soil nitrogen which otherwise would have been available for use both by the grass and trees. The answer to this problem lies in using more nitrogen; in applying the nitrogen during the dormant period—in late fall (winter in the South) or early spring; and in breaking up the sod occasionally.

If a sod orchard is disked, or plowed, and kept under clean cultivation for a time, the trees often respond remarkably both as to growth and fruitfulness. The effect is much the same as that secured from an ap-

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plication of nitrogen. The soil-management value of cultivation in an orchard lies primarily in its effect in releasing soil nitrogen for the trees. The immediate practical problem involved is one of comparing the cost of cultivation with the cost of the extra nitrogen required, if the soil is not cultivated.

But there is no surer method of exhausting the soil of its organic matter and available plant food and ruining its physical condition, than that of subjecting it to long periods of clean cultivation over a period of years. Many once highly-productive orchard soils have been ruined by a quarter century or more of cultivation which was not supplemented by an adequate system of cover-cropping.

Successful orchard-soil management requires the establishing of a suitable organic matter-nitrogen relationship. The micro-organisms which feed on the organic matter store up nitrogen in their bodies. Cultivation speeds up the release of this nitrogen. Growing or applying crude organic matter slows down its release. Organic matter in the orchard soil is, therefore, the nitrogen regulator for the trees. The solution of this organic matter-nitrogen problem provides an almost complete answer to the problem of soil management in orchard soils. It is safe to say that over 90 per cent of the orchards of the United States receive no cultural treatment other than one designed to control the supply of organic matter, and no fertilizer treatment other than nitrogen.

There is plenty of evidence that phosphoric acid and potash are useful in the growing of cover crops and in increasing the amount of clover in permanent sods. But there is very little evidence in favor of the use of phosphoric acid and potash, for the direct benefit of the trees, on anything other than sandy or gravelly soils. For that reason, horticulturists usually confine their fertilizer recommendations for trees to nitrogen only.

Fertilizing the trees with nitrogen, and fertilizing the cover crop with phosphoric acid and potash, present two fundamentally different problems as to time, method, and frequency of application. Nitrogen, as soon as it becomes nitrate, is mobile. It moves readily in the soil either up or down, depending upon the direction of movement of the soil water. A surface application of nitrogen meets the requirements. On the other hand, phosphoric acid or pot-

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ash, particularly the former, is fixed by the soil at or near its point of contact with the soil. To be fully effective materials carrying these compounds must be placed down in the soil where they are in close contact with the roots.

It is probable that many failures of horticulturists to notice any direct benefits to trees from the use of phosphoric acid and potash as surface dressings under the spread of the branches is due to the fact that these plant foods never reached the roots of the trees. In those cases where the trees did respond to such

treatments, the soils were of a sandy or gravelly nature, as a result of which there was not only a greater downward movement of the material but also a greater need for that which did succeed in reaching the roots.

The evidence to date favors the assumption that the effect of phosphoric acid and potash is not directly on the tree, but directly on the cover crop and indirectly on the tree. This being true, phosphoric acid and potash should be applied in such a manner as to be of most

(Continued on page 18)

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THE toxic effectiveness of "Astringent" Arsenate of Lead shows 15% to 20% better control than without an astringent. This is not our claim, but the observed results by thousands in every apple and pear growing district.

The natural adhesiveness of "Astringent" Arsenate of Lead is a definite advantage. Its uniform, fluffy fineness goes far to obviate sediment troubles. You get excellent coverage, fine protection, yet without any interference with the natural functioning of the leaf cells. You need healthy leaf growth to mature "Extra Fancy" fruit. You'll have both when you standardize on "Astringent" Lead Arsenate.

Dealers Everywhere

## ORCHARD BRAND

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GENERAL CHEMICAL COMPANY 40 RECTOR ST., NEW YORK

Sales Offices:

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## RUST DISEASES OF APPLES

(Continued from page 11)

West Virginia has a state law which declares cedar trees to be a nuisance within three miles of an apple orchard. This law allows growers in the state to force owners of cedar trees to permit their removal, if permission is not granted voluntarily.

As spores of the rust diseases are carried by the wind, to successfully combat the diseases it is necessary to

remove all cedar trees within a radius of one to three miles of the orchard. This should be done before spring to prevent the spread of the spores.

By far the most economical control measure is cedar removal, but where it is impossible to remove trees, application of a fungicide is the only alternative. It seems likely, from the limited information available, that fruit infection may be reduced considerably by the application of lime-sulphur during the period when fruit is susceptible. Experimental work is being carried on to determine this period and it is probable that the susceptible period for the apple fruits is close to the time when petals fall.

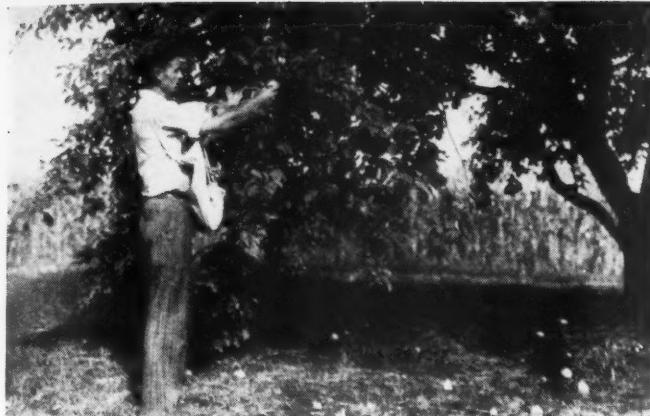
## SOIL MANAGEMENT

(Continued from page 17)

benefit to the cover crop. This necessitates a different time, place, and frequency of application for phosphoric acid and potash than for nitrogen. Phosphoric acid and potash should be applied at the seeding time of the cover crop, or preceding cultivation of a permanent-sod cover. They should be placed down near the seed of the cover crop. They should be cultivated deeply into the soil in the case of the sod orchard. They should be used only from time to time as the appearance of the cover crop or sod makes their need apparent. When phosphoric acid and potash are applied, the rate of application should be generous in order to more or less saturate the soil with them and to deliver a part directly to the trees.

Only sandy and gravelly soils and those seriously in need of organic matter require the use of phosphoric acid and potash. On such soils we should think in terms of two fertilizer programs: a nitrogen program in which the nitrogen is applied under and three feet or more beyond the spread of the limbs every fall or spring for the primary benefit of the trees; and a phosphate-potash program in which materials carrying these compounds are applied broadcast over the entire orchard area for the primary benefit of the cover crop. Nitrogen should be placed on top of the soil. Phosphoric acid and potash should be placed down in the soil. Nitrogen should be applied every year. Phosphoric acid and potash should be applied only when the cover indicates a need for them and then in relatively liberal amounts. Occasional heavy applications of phosphoric acid and potash, once in three or four years, are much more effective and more economical than small annual doses.

In this connection, the reaction of the soil is worthy of consideration. When a soil becomes too acid, the cover crops do not grow luxuriantly; the organic materials (sod roots and tops) do not rot rapidly; and the phosphoric acid is locked up in an unavailable form. The prevention of the development of acidity in orchard soils by the addition of lime is justified if for no other reason than its very favorable effect on the growth of the cover crop and its usefulness in decomposing the organic matter added to the soil by this cover crop.



Save more of your Grade-A apples from bruising—Pick lower fruit first!

## CHAMPION APPLE PICKER TELLS HOW HE BREAKS RECORDS

By ROGER CARL MOORE  
(276 BUSHEL STAR)

"**H**OW many apples can a man pick in a day, and how does a good picker go about it?" I have heard that question since the time I made my debut as a picker at the age of 12 in one of the largest apple orchards in the East. Ten years later I had worked out a method that enabled me to set a record of the largest number of bushels ever picked in one day on the steep mountainsides of western Maryland.

The trees in this orchard were about 20 years old when I did my best picking. We picked by the box, each man carrying numbered tickets, one of which he placed in each box, the final tally later appearing at the packing shed. Apples that fell to the ground were placed in separate boxes.

I set my record one October day when picking Baldwins. The night before we heard that the picking

would be good the next day, although there was some danger of going ahead so fast that we would outdistance the teamsters hauling empty boxes. That evening I went over my picking sack carefully. It was the type that hooks up at either side, with no canvas support extending across the top to slacken picking speed. Before going to sleep I ran over in my mind every move I hoped to make the next day, and worked up so much energy that I hit the hillside the next morning, along with scores of other pickers, like a released dynamo.

My formula was simple: Never make a false motion, never hurry; overcome the handicap of short stature and small hands by scientific effort. I had chosen a 22-foot ladder with a prong at the end. Frost covered the ground, and a dense fog

*(Continued on page 23)*

### RULES FOR PICKERS

The following Rules for Pickers have been collected by *American Fruit Grower* for use of readers.

Begin with lower branches and work upward to reduce dropping hazards.

Place ladder in such position so that if dislodged it will fall against the center of the tree, thus preventing serious accidents.

Stems should not be twisted or torn out.

Carry picking bag on side, not in front.

Spurs should not be damaged, for on them depends next year's crop.

Extra care should be used in handling tender varieties such as Winter Banana, Grimes Golden, Delicious, Stayman, Winesap, etc.

Pickers should be relieved of fruit near trees in order that they may resume picking immediately.

When emptying bag see that opening is close to bottom of crate.

Picked fruit should be placed in the shade on the north side of tree.

Trucks for hauling fruit to the packing shed should be low to prevent excessive lifting and should have good springs and tires to protect the fruit.

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Pathfinder (weekly).....	1 yr.
Good Stories.....	1 yr.
Illustrated Mechanics.....	1 yr.
	ONLY
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Offer No. 109	ALL
AMERICAN FRUIT GROWER 1 yr.	FOUR
Delineator Magazine.....	1 yr.
Pictorial Review.....	1 yr.
Household Magazine.....	1 yr.
	ONLY
	\$2.00

Offer No. 110	ALL
AMERICAN FRUIT GROWER 1 yr.	SIX
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Good Stories.....	1 yr.
Gentlewoman Magazine.....	1 yr.
Home Circle.....	1 yr.
Mother's Home Life.....	1 yr.
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AMERICAN FRUIT GROWER for One (1) Year and Your Choice of Any Four of the Following Magazines for ONLY \$1.00

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- American Poultry Journal..... 1 yr.
- Cloverleaf American Review..... 1 yr.
- Everybody's Poultry Magazine..... 1 yr.
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- Rhode Island Red Journal..... 1 yr.
- Illustrated Mechanics..... 1 yr.
- Plymouth Rock Monthly..... 1 yr.
- Mother's Home Life..... 1 yr.
- Good Stories..... 1 yr.
- Home Circle..... 1 yr.
- Household Magazine..... 1 yr.
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AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland, Ohio.

Enclosed find \$..... for which please send me the magazines marked with an X.

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Postoffice .....

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By Drought! IRRIGATE with OOZO Porous Hose and be sure of a good fruit crop. OOZO puts water—economically—where you want it, when you want it, as you want it, in orchard, field, garden or lawn. Long lived and treated to withstand decay. Money refunded if not satisfied after 5 days' trial.

Ask your Supply House or write us at once for literature and prices.

**OOZO, INC.** HOWELL, MICH.

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that are dependable, at low cost.  
Priced \$100.00 and up.

For particulars write

**PARMA WATER LIFTER CO.,**  
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## AFTER your gardening use **PALOMAR HAND LOTION**

cleanses, softens, whitens and perfumes the hands all in one application without water. Used and endorsed by thousands.

Six ounce bottle **50c**, postpaid, (stamps acceptable).  
Money refunded if not satisfied

BLUE JAY AGENCY AB RICHMOND HILL, N. Y.  
AGENTS WANTED

## PICKING BAGS LADDERS BUSHEL BASKETS

Excelsior Cushions, Caps, Liners.  
We make three styles PICKING BAGS.  
John Bacon, Inc., Gasport, N. Y.  
"Everything for the Fruit Grower"

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Member Southern Association of Colleges and Secondary Schools; Association of American Colleges and American Council on Education  
Campus is a 50-acre citrus grove within municipal limits of community of 22,000  
Individual Education for the Individual Student  
Courses leading to B. A. and B. S. degrees and L. I. certificates. Departments include Art, Bible, Sciences, Business Administration, Education, Languages, Religion, Home Economics, Interior Decorating, Music, Dramatics, Journalism, History, Social Sciences, etc.  
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The right kind of teeth needn't be expensive. We proved this to thousands of customers who have improved their health and good looks with Alger Dental Plates—all at a low price that was a pleasant surprise. You save up to \$50. A 60-day trial and money-back GUARANTEE insure complete satisfaction. Let us show you how easy it is to order Alger Dental Plates by mail. Send no money. Write our Dr. J. M. Bette, D.D.S. for details. 1562 N. Wells Street Dept. 620-1, Chicago

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# CIDER

Smart bottle design that is rapidly increasing profits.

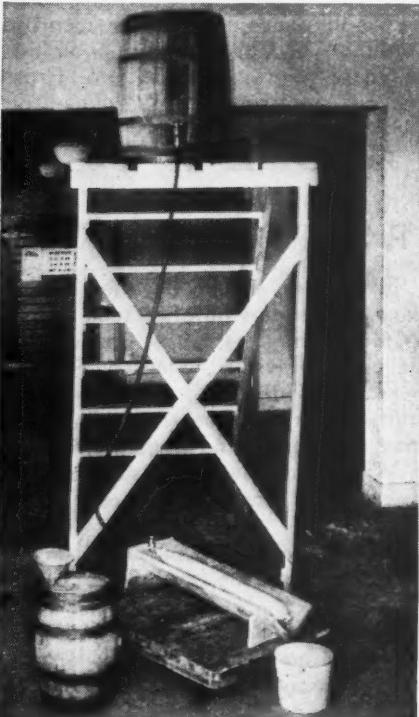


## PRODUCTION POINTERS

By JONAS HOWARD

THE first requirement for the production of high-grade cider is the use of sound, ripe fruit. The cider-producing quality of apples depends upon the content of sugar, flavor and aroma, which are present in maximum amounts in ripe fruit. Rotten or partially rotten apples should be outlawed from the cider-apple bin. Decayed portions of the fruit carry harmful bacteria and molds which reproduce in the cider and may ruin it for beverage purposes.

Apples should be left on the trees until ripe. Where this practice is not possible they should be placed in an airy room with a false floor which will allow free circulation of air and bring about artificial ripening.



Filtering equipment perfected by Michigan State College, showing elevated barrel and hose leading to cloth filtering tube.

AMERICAN FRUIT GROWER

Fruit reaches the "pressing point" when the flavor and odor characteristics of the variety have developed, but when it is still too hard to eat out of hand. When windfalls are used they should be fully mature and free from decay. Apples piled on the ground usually have an "earthy" flavor which will detract from the cider.

A five-minute bath in a diluted acid wash will remove any spray residue that may be on the fruit, or any organisms on the surface of the fruit which may cause spoilage of the cider. The bath is made by adding six quarts of concentrated hydrochloric acid to 100 gallons of water. The latter is stirred vigorously while the acid is poured into it in a thin stream. The bath should be stored in a wooden container and the hands of the grower should be covered with rubber gloves when the bath is being used.

Care should be taken that the apples are ground sufficiently fine for maximum juice extraction. If a deep color is desired in the finished product, the ground pulp may be left in a clean container for 12 to 24 hours before pressing.

Most of the grinders and presses on the market are satisfactory for their intended purpose and a description of them will not be given here. The rack and cloth type of press is the most efficient and when this type is employed it is imperative that the grinder, press, racks and cloths are clean before using.

Press cloths made of cotton duck or drilling are best as they impart no flavor, as does burlap. The best woods for racks are beech, oak, maple, basswood or elm as they are practically tasteless. New racks should be dipped in hot paraffin before using. The pulp and juice should never come in contact with

EMBER, 1936

iron, as this causes blackening when the cider is exposed to the air. Brass nails are recommended for racks, baskets, grinders and presses.

As the cider comes from the press it contains tiny particles which give it a murky appearance. To make the cider clear it is necessary to filter the product and remove the particles. Freshly pressed cider may be made readily filterable by the use of enzymes which, when added to the cider, cause a breaking down of the tiny particles and settling of the substances which cause cloudiness in the juice.

The time required to prepare the cider for filtering depends on the amount of the enzyme used, the temperature at which the cider is held, and the varieties and the ripeness of the apples from which the cider was made. It is advisable to work with the temperature as close to 32° F. as possible.

If the enzyme is added at the rate of 20 to 30 ounces to each 100 gallons of cider and the mixture is allowed to stand for from 12 to 16 hours in a cool place, the cider will be ready for filtering.

As a check, about a quart of the cider should be taken from the batch after the enzyme has been added. This should be observed and when the bulk of the particles have settled to the bottom of the container, the cider is ready to be filtered.

Following clarification, cider is made clear of remaining particles by filtration. The best filtering method is to use regular filtering machines which are available from manufacturers.

The grower, however, who produces only a few gallons of cider each year may not care to invest in such equipment and must resort to other means. A simple method of filtration, which was originated at Michigan State College, consists of passing the juice through a closed cloth tube. The particles are held back by the mesh of the cloth and a cake of infusorial earth, while the clear cider flows through. A supply tank or barrel is elevated above the tube in which the cloth tube lies.

Before the juice is placed in the tank or barrel, two to six pounds of a treated infusorial earth are placed in each 100 gallons of the juice. The cider is conducted from the elevated container to the cloth tube by a hose of the garden type. The infusorial earth forms a screen within the tube which catches the tiny particles.

The cloth tube should be about three feet in length, one end being tied about the hose and the other tied shut with a string. The first two or three gallons of the juice which pass through the tube should be placed in the container as the infusorial earth screen forms only after more of the juice has passed through the tube.

SEPTEMBER, 1936

## OPPORTUNITY ADS

Only 15c a Word—CASH WITH ORDER  
Count each initial and whole number as one word  
ADDRESS: AMERICAN FRUIT GROWER,  
1370 Ontario Street, Cleveland, Ohio

### BARREL-MAKING MACHINERY

TRUSTEE'S SALE BARREL-MAKING MACHINERY, with motor, Chamber-Crozer Trevor Machine; Trevor Windless; Trusser; Home-made Windless. Cheap. J. NEVIN KILMER, Martinsburg, West Virginia.

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BOOKS AND MAGAZINES, 3000 LISTED, STATE your interests. APPLE GROWING, a complete guide for the average farmer, \$1.10. Circulars. V. COUCH, Ithaca, N.Y.

### BUSHEL CRATES

FOR EVERY PURPOSE, LIGHT, STRONG AND DURABLE, DESCRIPTIVE CIRCULARS, PREPAID FREIGHT PRICES. PROMPT SERVICE. FRE PATTON, Jewett, Ohio.

### CIDER MILLS

CIDER MACHINERY—LITTLE USED—FOR SALE. Three Presses, One Grater \$25.00; Pump, Apple Washer, Three Filters, Electric Motors. Also New Machinery. Booklet FREE. PALMER BROS., Cos Cob, Connecticut.

### DAIRY GOATS

DAIRY GOAT JOURNAL, DEPT. 603, FAIRBURY, Nebr. Monthly Magazine, 25c yearly; 5 months 10c.

### ELECTRIC PUMPS

WORLD'S SIMPLEST ELECTRIC PUMP—ONLY 1 moving part. Nothing to wear or cause trouble. 28-foot suction lift. Operates cheaply. Money-back guarantee. Thousands satisfied users. Write for Free Catalog. Dept. 199, MICRO-WESTCO, Inc., Bettendorf, Iowa.

### FILMS

FILMS—10c PER ROLL, 120 OR 116. REFLEX. Kirksville, Missouri.

### FOR SALE

120 ACRE ORCHARD, 13 YEARS OLD, ON MAIN highway Reading to Philadelphia. Five Miles from Reading, forty miles from Philadelphia. Fine condition. Best commercial variety. Large stone dwelling with bathroom and other conveniences. Two barns. New and modern machinery, including Four Ton York Refrigeration Unit. Price very reasonable, including this year's crop of Apples, \$25,000 (less than cost of replacing buildings). Terms to suit. Apply 605 COLONIAL TRUST BUILDING, Reading, Pennsylvania.

191 ACRE FRUIT FARM—PLANTED 18 YEARS, TEN miles south from Canfield, Ohio, on State Route 14. Estimate 14,000 bushel apples this year. J. I. MANCHESTER, Canfield, Ohio.

FRUIT FARM 205 ACRES A1 CONDITION. GOOD Buildings, Crops and Equipment. At Bargain. LORD AND KNOX, New Castle, Pennsylvania.

68 ACRES, CLAY ORCHARD, 13 YEARS OLD, 4000 Apple Trees, 2600 Peach Trees. Write BOX 455, Vincennes, Indiana.

### FRUIT GRADERS

THE "BUTLER" DIVIDES FRUIT INTO ANY FOUR of seven sizes. Rings instantly interchangeable. It "Handles the Fruit with Rubber Gloves." Weighs only 200 lbs.—easily portable. All steel construction—nothing to build or assemble. Over 12 feet in length but folds to 24 inches. Handpower only \$90; electric, \$115; gasoline, \$140. WE PAY THE FREIGHT. Write for illustrated circular. BUTLER MFG. CO., Conneaut, Ohio, U.S.A.

### HOSIERY

BEAUTIFUL QUALITY HOSIERY, 5 PAIRS \$1 (1 pair 25c). DIRECTCO, AF-221 W. Broad, Savannah, Georgia.

The small producer who does not have sufficient output to warrant the purchase of pasteurizing or germ-proofing equipment will find that benzoate of soda, used at the rate of 6.5 ounces to 50 gallons of cider, will act as a satisfactory preservative, although it may impart a slightly foreign taste to the juice. Some states require that the amount of benzoate of soda used for preserving the juice be stated on the container. Where this preservative is to be used, it is advisable to consult the state law. When cider is to be held for sale, no matter what the preserving method used, it should be stored in a cool room with the temperature as close to 32° F. as possible.

AMERICAN FRUIT GROWER

### LADDERS

FOR EVERY PURPOSE, LIGHT, STRONG AND DURABLE. DESCRIPTIVE CIRCULARS, PREPAID FREIGHT PRICES, PROMPT SERVICE. FRE PATTON, Jewett, Ohio.

### MALE HELP WANTED

MAN WANTED—MANUFACTURER ESTABLISHED 46 years will finance responsible man with complete stock of guaranteed food, farm and household necessities—you pay when sold. Mighty attractive proposition. Good living right from start with steady increase for industrious man. Big Value Combination Deals, Premiums and Fast-Selling Specials now in effect. Jacob Van Dyke of Michigan sold \$441.21; Maurice Vander Haar of Michigan sold \$376.15; and B. M. Anderson of Utah sold \$530.55 in one recent week. Pleasant outdoor work. Experience not necessary. No slack seasons or layoffs. Write today for "No-Investment" offer. McCONNELL AND COMPANY, Room 14JS, Winona, Minnesota.

### NURSERY STOCK

FRUIT TREES FOR FALL AND WINTER PLANTING. 400,000 PEACH trees. All thin old and new varieties in all grades at very reasonable prices. 27c each. APPLE trees, one and two year old. PEAR, PLUM and CHERRY plants. RASPBERRY, BLACKBERRY and STRAWBERRY plants. GRAPE VINES. Full line of ornamentals. Largest and best stock of fruit trees, vines and plants East of the Mississippi River at prices you can afford to buy. Our FALL PRICE LIST is ready for you now. Get it and our large descriptive catalog. They are FREE. We especially cater to the trade of the Large Commercial Orchardists. Well known and do business in every state and in Europe. A postal card will bring you the whole story. Write Promptly. BOUNTIFUL RIDGE NURSERIES, Box G, Princess Anne, Maryland.

HARDY APPLE AND PEACH TREES, SEEDLINGS and Root Grafts. Write us. JONES NURSERY COMPANY, Woodlawn, Virginia.

### OLD COINS WANTED

\$5000 EACH FOR RARE COINS. WE GUARANTEE to pay the World's highest prices. Large Cents up to \$2000 each, 1860 Cent \$50.00, Cents of 1861, 1869, 1870, 1881, 1890, \$20.00 each, 1909 Cent \$10.00, 25c before 1916 \$300.00, 50c before 1916 \$750.00, Commemorative 50c—1915 to 1936—\$60.00. Gold Coins \$5000.00, Half Cents, Half Dimes, Foreign Coins, Paper Money and thousands of others up to \$2500.00 each. Send Dime for Large Illustrated Catalogue before sending us anything to sell. ROMANOCOINSHOP, Dept. 131, Nantasket, Massachusetts.

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FILMS DEVELOPED ANY SIZE, 25c COIN, INCLUDING TWO ENLARGEMENTS. CENTURY PHOTO SERVICE, Box 829, La Crosse, Wis.

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RHEUMATISM, NEURITIS, ACHEs AND PAINS quickly relieved with Keene's Wintergreen Compound Tablets or they cost you nothing. Absolutely guaranteed. Consult your druggist or write for free literature. DEPARTMENT A, The Keene Pharmacal Co., Meridian & Ohio Sts., Indianapolis, Indiana.

## Commercial Fruit and Vegetable Products

By W. V. CRUESS

580 pages of valuable information on the preservation of fruit and vegetable products. Amply illustrated. Sent postpaid on receipt of \$4.50.

AMERICAN FRUIT GROWER  
1370 Ontario St.,  
Cleveland, Ohio

## BENZOATE

Odorless and Tasteless  
For Cider Preservation

5 lb. lots..... \$3.25

10 lb. lots..... 6.00

Full instructions with each package

Carus Chem. Co., Dept. AF, LaSalle, Ill.

PAGE 21

# SUCCESSFUL ORCHARDS

● A "ROUND TABLE" PAGE FOR EVERY GROWER ●

## POEMS ON CARDS ATTRACT BUYERS

DURING the busy summer season many growers are thinking of advertising schemes to attract buyers at harvest time. Blotters, cards, attractive stationery, signs, posters and recipe booklets all present a means of placing orchard products before the consumer and the amount to be spent for advertising determines which of these is to be used.

M. E. Maze of Middleville, Mich., sends in a card which he has distributed in his community and upon which is a catchy poem about the fruit that he raises. He says concerning the card: "I wanted to advertise my orchard so I wrote this foolish stuff on a basket back in the orchard. I have had lots of fun with it and it does the business too."

The poem appearing on the card that Mr. Maze uses is too lengthy for reproduction here, but its apparent sincerity and catchy phrases have no doubt won many valued customers. Mr. Maze presents the location of his orchard plainly on the card and says that customers have no trouble in finding his place.

Here is a chance for every grower to exercise his poetic skill or for some other member of the family to do the same. Your local printer will make up the cards usually at low cost and they will help to keep your orchard and the fruit that it produces before the consumers.

## "HOW MANY MILES TO AN APPLE?"

A N advertising "lead" for all growers is contained in a recent letter from Arno Meyer, proprietor of the Waldo Orchards at Waldo, Wis. Mr. Meyer presents an unusual angle to apple consumption in his statement which reads: "I think that one big opportunity is missed in advertising apples when we fail to advise automobile drivers, who grow weary on long trips, that to eat an apple while driving helps to pass the time and will refresh them."

Competition may reach a new high if Orchardist Jones is able to prove that drivers can get more miles to the apple with his fruit than with Orchardist Smith's. Mr. Meyer suggests: "We might even run tests to answer the question—'How many miles to an apple?'"

## MAPS HELPFUL IN LOCATING ORCHARD

"FOR many years I have used advertising space in local papers within a 30-mile radius of my orchard," says C. E. Dutton, manager of the Ohio Orchards Co. orchard at Milford Center, Ohio. One of the features of the advertisements run by Mr. Dutton in the local papers is a map showing the exact location of the orchard and giving the roads in the vicinity with the regular State highway markings clearly shown. It is thus easy

This page is a place for growers to get together and exchange experiences and ideas. The beginner, as well as the veteran, will find here many practical suggestions for better and more profitable fruit growing. In return for the helps you receive from this page, be ready to pass on, for the benefit of others, any new idea, method or procedure you have developed or run across. Just jot it down as it occurs to you (a postcard will often do) and mail it to the "ROUND TABLE EDITOR," AMERICAN FRUIT GROWER. Don't worry about fancy writing. What the readers of this page want are practical pointers—that are to the point.

for a buyer to locate the orchard when he has his family out for a drive. The advertisements also tell of the fruit available at the time the advertisement appears and contain a small, eye-catching cut that will attract the reader as he scans through the newspaper. Cider, too, is featured during the season in the advertising placed by Mr. Dutton.

## PENNY CARDS SENT POTENTIAL BUYERS

A S each fruit is ready for picking at the Willard Orchard near Brighton, Ill., owner F. J. Oehm mails out penny postal cards telling former customers the date that the fruit will be ready for sale at the orchard. "We obtain names and addresses of people as they buy fruit," he says, "then the following year or later the same season we send them cards telling them that the fruit will be ready on a certain date. Very often the same buyers return because they know that they can obtain fresh fruit almost directly off the trees. One of our regular customers is the postmaster of our town and he got started by seeing one of these postal cards as he was sorting the mail. Another steady buyer is a woman who saw one of the cards on the waiting room table in her dentist's office. The cards certainly have a way of getting circulated and we feel sure they are doing a good job for us."

On the postal cards that Mr. Oehm sends out is an attractive illustration of

the fruit to be sold. The consumer is told the date that the fruit is to be ready for sale and the location of the orchard. A small paragraph under the cut of the fruit reads, "Pass this card to a friend." This is an inexpensive way to build up good will among consumers and aids them by advising just when the choice fruit will be available.

## PRINTED BAGS ADVERTISE FRUIT

"A MOVABLE roadside stand" is the motto of C. E. Drumheller, manager of the Flagg Buckhorn Estate orchards at Buena Vista, Ohio. Mr. Drumheller moves his loaded trucks to any point in the surrounding highway system and sells the fruit directly from the truck. He says that people are attracted to the trucks by the decorations of printed bags which are tacked in conspicuous places on the truck. The bags have a large, red apple in the center of the printed side and the name and location of the orchard in large green letters. Signs are placed in conspicuous places throughout the neighborhood telling where the trucks will be located and the amount of fruit that they will have for sale. Purchasers are thus able to drive to the spot where the trucks are located and select the fruit that they desire. Since he is located off a main highway Mr. Drumheller says that he is able to attract attention to his trucks which are driven to points where heavy traffic occurs by display of the fruit and the decorative bags. Folks like the bags of fruit, too, he says, as they are convenient for handling in automobiles.

## RECIPE BOOKLETS BOOST FRUIT SALES

BECAUSE of a successful experience, W. B. Baughman of New Concord, Ohio, is completely sold on the plan of distributing fruit recipe booklets to promote the use of fruit in the territory which he serves. He says, "When we first considered advertising the products of the Muskingum Orchards Co., there were many ways presented to carry on the advertising program. Working on the idea that an increase in consumption would increase sales, we decided on the recipe booklet as a means of increasing the use of our products. Our fruit is all packed and marketed under Moose Eye brand and we had a good drawing of a moose made for use on the cover of the booklets and for labels. We produced a 66-page booklet with colored, lithographed covers for a cent and a half apiece in lots of 10,000. This booklet had wide circulation and we feel that it is certainly worth while for increasing sales and keeping Moose Eye brand before the consumer."

Mr. Baughman also uses posters to advertise his fruit and features a six-foot poster which attractively illustrates the fruit raised in the orchard.

SEPTEMBER, 1938

## CHAMPION APPLE PICKER

(Continued from page 19)

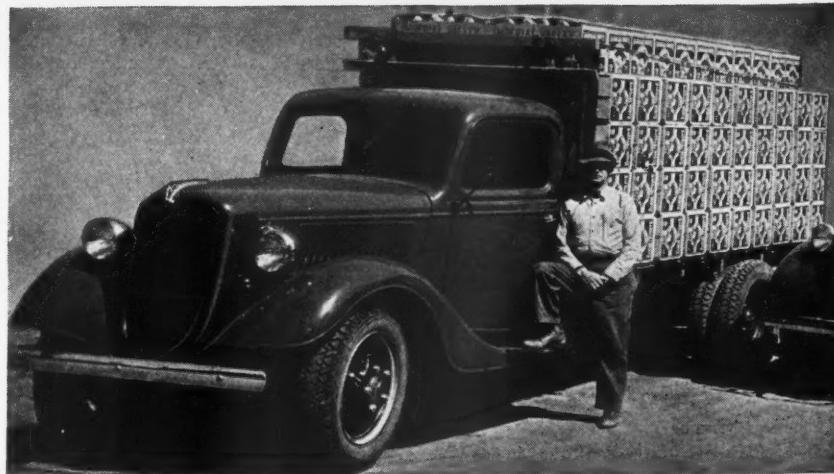
had drifted in; we were soon soaked to the skin. I did not use gloves. A glance, and I would set my ladder and pick a swath up it to the top of the tree. My sack held just a bushel, and I never emptied it before it was full. Moving the ladder to just the right distance to cut another swath, I would pick a tree in three or four sets, and on the last set would climb into the top and gather the apples that could not be reached by the ladder. Then I would swing through the heart of the tree, still picking, and wind up by gathering the apples on the ground, making a single broad sweep around the trunk. I would hold my ladder upright when going to the next tree, even though it was a considerable distance away; to lower it meant time lost.

The fog thinned and the sun came out, and I still picked regularly, smoothly, never missing a lunge at an apple or directly encountering a branch. I was making from 25 to 30 bushels per hour; I could tell the time of day by the way my stack of tickets went down. At noon I ate leisurely and relaxed for a half hour. I was leading the pack, although nearby I could see men eating and picking at the same time, men working their heads off to untangle apples from behind stubborn boughs, and setting their ladders 10 times where four sets would have been sufficient.

When the early autumn darkness fell I had picked 276 bushels, eclipsing my previous record of 260 bushels made the year before on the York Imperials. As we then picked by the box, I had also made mighty good wages, although I can truthfully say that it was the competitive urge that drove the best pickers to such speed on the days when the apples were good.

That record still stands, although a couple of years later one of the tall, rangy pickers ran up to 268 bushels, but could not get over that last margin of eight bushels. That day's picking had other results for me also. It brought me forcibly to the attention of the orchard manager, who was soon to be promoted to the direction of a number of orchards extending over four states. When I came out of business school the next spring, I became his secretary, and this opening led to my present position in New York City. Even now, during vacations, I still pick apples, but several years of office life form an effective barrier to any attempt to beat my own record.

SEPTEMBER, 1936



## MOVING FRUIT TO MARKET FASTER AND AT LOWER COST

In the orchard and the vineyard, Ford V-8 Trucks and Commercial Cars have demonstrated their ability to cut costs and get over the ground. Fruit growers must have trucks that will go anywhere—plowed fields, rutty lanes, steep slopes of side-hill orchards—all of which test the power and reliability of the equipment. Many fruit growers use Ford V-8 Trucks and Commercial Cars to pick up the crop in the fields and deliver it to the shipping point. Others use Fords for the long hauls with heavy loads directly to the market.

This is typical of the way V-8 Performance is solving the hauling problems of fruit growers everywhere . . . In Florida, Georgia, Texas, Michigan, New York, and New England, fruit growers are changing to Fords for the sake of

economy as well as reliability and performance. Cost records of owners show that V-8 Economy Is OVER-ALL ECONOMY. It includes low capital investment, interest and depreciation as well as low gasoline, oil, tire, up-keep and repair costs. It includes savings in taxes, insurance and license fees.

Try a Ford V-8 Truck or Commercial Car with your own loads, under your own operating conditions. Get in touch with your Ford dealer today and set a date for an "on-the-job" test. There is no cost, no obligation. And you may find a way to cut your hauling costs.

Any new 112-inch wheelbase Ford V-8 Commercial Car can be purchased for \$25 a month, with usual down-payment. Any new 131½-inch or 157-inch wheelbase Ford V-8 Truck can be purchased with the usual down-payment on the new Universal Credit Company ½% per month Finance Plans.

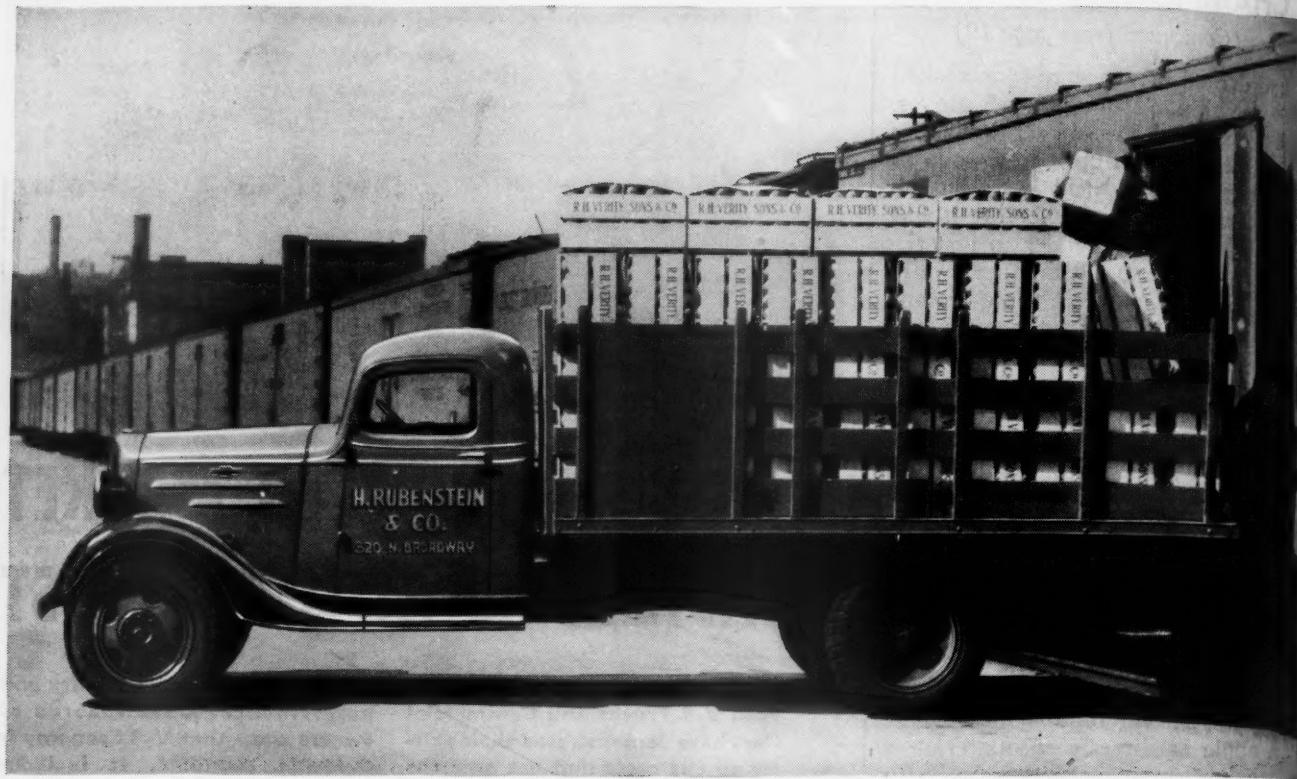
FORD ANNOUNCES NEW  
DE LUXE EQUIPMENT FOR TRUCKS AND COMMERCIAL CARS  
Low additional cost. See your Ford dealer for full details and prices



# FORD V-8 TRUCKS AND COMMERCIAL CARS

AMERICAN FRUIT GROWER

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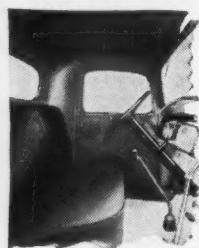
## YOU WANT POWER—YOU ALSO WANT ECONOMY

Nowhere will you find them blended so perfectly as in Chevrolet trucks

*Be wise . . . Economize . . . Buy CHEVROLETS*



**NEW PERFECTED HYDRAULIC BRAKES**  
always equalized for quick, unswerving, "straight line" stops



**NEW FULL-TRIMMED DE LUXE CAB**  
with clear-vision instrument panel for safe control

**UP GOES power . . . Down come costs!** Truck users who have investigated this claim for 1936 Chevrolet trucks have overwhelmingly chosen Chevrolet.

There are many good reasons for this preference. Chevrolet trucks have *more pulling power* than any other low-priced truck. It is economical power, too, because Chevrolet trucks use less gas . . . and they use less oil. That means more power per gallon—less cost per load. Furthermore, Chevrolet trucks will give you the most economical all-round operation you have ever experienced, because highest quality is built into every part and feature.

The Chevrolet Valve-in-Head Truck Engine is unmatched for dependable, low-cost operation. New Perfected Hydraulic Brakes are the safest ever developed. And there is extra strength in the construction of every other feature . . . the same kind of ruggedness that is built into the massive Full-Floating Rear Axle of 1½-ton models.

When you buy new trucks, follow the plan of other wise and careful truck buyers. Get a thorough demonstration of Chevrolet trucks. Watch their power . . . note their economy . . . and be convinced that they are the best trucks you can buy.

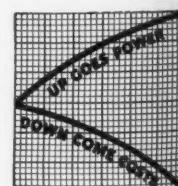
CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN



**NEW HIGH-COMPRESSION VALVE-IN-HEAD ENGINE**  
with increased horsepower, increased torque, greater economy in gas and oil



**FULL-FLOATING REAR AXLE**  
with barrel type wheel bearings on 1½-ton models



GENERAL MOTORS INSTALLMENT PLAN—  
MONTHLY PAYMENTS TO SUIT YOUR PURSE



**CHEVROLET TRUCKS**  
WORLD'S THRIFTIEST HIGH-POWERED TRUCKS